



PATENT  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Lu et al.

SERIAL NO.: 09/119,163 EXAMINER: Paschall

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TITLE: ELECTRODE FOR A PLASMA ARC TORCH HAVING AN  
IMPROVED INSERT CONFIGURATION

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L.M.  
5-13-99

Assistant Commissioner for Patents  
Washington, D.C. 20231

AMENDMENT AND RESPONSE

This paper is submitted in response to the Office Action mailed from the Patent Office on February 8, 1999.

AMENDMENT

~~In the Claims:~~

Please cancel claims 3 and 11, without prejudice.

Please amend claims 1, 6, 10, 18 and 29, and add new claims 34 - 40 as follows:

1. (Amended) An electrode for a plasma arc torch, the electrode comprising:

an elongated electrode body formed of a high thermal conductivity material and having a bore disposed in a bottom end of the electrode body; and

a ring-shaped insert comprising a high thermionic emissivity material disposed in the bore,  
the high thermionic emissivity material comprising hafnium or zirconium.